

MULTIPLE DATA RATES IN PROGRAMMABLE
LOGIC DEVICE SERIAL INTERFACE

Abstract of the Disclosure

[0039] A serial interface for a programmable logic
5 device supports a higher physical medium attachment
("PMA") data rate than the available physical coding
sublayer ("PCS") data rate by using multiple PCS modules,
operating in parallel, to support one PMA module. In a
channel-based structure, the PMA module is supported by a
10 PCS module in its own channel and at least one PCS module
from a second channel. The second channel may include its
own PMA module which, if provided, may operate at a lower
rate, supportable by the PCS module in that channel.
Optionally, two modes are provided. In one mode, two PCS
15 modules in two channels support one higher-speed PMA
module in one of the channels. In a second mode, each PCS
module supports a PMA module in its own channel, with the
higher-speed PMA module constrained to operate at the
lower data rate of the PCS module.